Technical Paper 302

LEVEL II

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A VALIDATION OF THE STRUCTURE OF COMBAT INTELLIGENCE RATINGS

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and

Edgar M. Johnson

BATTLEFIELD INFORMATION SYSTEMS TECHNICAL AREA

U. S. Army

Research Institute for the Behavioral and Social Sciences

August 1978

U. S. ARMY RESEARCH INSTITUTE FOR THE BEHAVIORAL AND SOCIAL SCIENCES

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(14) ARI-TP-302

Unclassified

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE

READ INSTRUCTIONS BEFORE COMPLETING FORM

1. REPORT NUMBER: (9) Technical Paper, 302	2. GOVT ACCESSION NO.
3. RECIPIENT'S CATALOG NUMBER	
4. TITLE (and Subtitle): (6) A VALIDATION OF THE STRUCTURE OF COMBAT INTELLIGENCE RATINGS	5. TYPE OF REPORT & PERIOD COVERED: --
6. PERFORMING ORG. REPORT NUMBER: --	
7. AUTHOR(s): (10) Stanley M. Halpin, Franklin L. Moses, and Edgar M. Johnson	8. CONTRACT OR GRANT NUMBER(s): --
9. PERFORMING ORGANIZATION NAME AND ADDRESS: U.S. Army Research Institute, 5001 Eisenhower Ave., Alexandria, VA 22333	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS: (16) 2Q762722A765
11. CONTROLLING OFFICE NAME AND ADDRESS: U.S. Army Intelligence Center and School, Fort Huachuca, AZ	12. REPORT DATE: (11) August 1978 13. NUMBER OF PAGES: 42
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office): -- (12) 51 pp	15. SECURITY CLASS. (of this report): Unclassified 15a. DECLASSIFICATION/DOWNGRADING SCHEDULE: --

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release: distribution unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

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18. SUPPLEMENTARY NOTES

This is a follow up to ARI Technical Paper 286, Determination of the Structure of Combat Intelligence Ratings, 1978; M. S. Miron, S. M. Patten, and S. N. Halpin.

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Tactical Intelligence, Combat Intelligence, Information Quality, Data Quality, Content Analysis, Factor Analysis

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A validation of a previously derived four-dimensional descriptive structure for evaluating the quality of combat intelligence data was undertaken. Fifty-six officers in the Intelligence Officer's Advanced course were split into two groups; one group rated 40 messages from the Battle of the Bulge scenario used in the original research, and the second group rated 40 messages from a scenario based on a hypothetical mid-intensity European conflict. Each message was rated on 50 rating scales previously →

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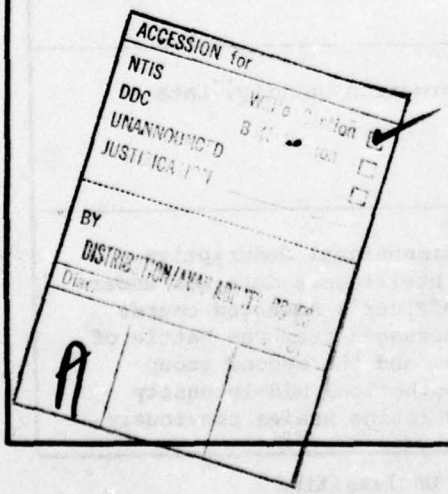
used, as well as on four new scales based on the findings of the previous research. Factor analyses of the results showed that the structure of ratings within both scenarios is basically the same as that derived from the enlisted analysts. Two concepts, TRUTH and RELEVANCE/IMPORTANCE/THREAT, were major factors in the evaluation of intelligence information in all cases. Two of the new scales, "True" and "Predictable," reflect the TRUTH dimension, and the other two new scales, "Important" and "Relevant," represent the RELEVANCE/IMPORTANCE/THREAT dimension. The structure of intelligence information quality validated in the present study is not well represented by the current ratings of Information Accuracy and Reliability of Source. A new Accuracy scale could capture a major portion of the variance in quality ratings, and the other new scales evaluated here provide a basis for further development of supplementary ratings.



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BATTLEFIELD INFORMATION SYSTEMS TECHNICAL AREA

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Office, Deputy Chief of Staff for Personnel
Department of the Army

August 1978

Army Project Number
2Q762722A765

Intelligence Systems

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FOREWORD

The Battlefield Information Systems Technical Area is concerned with the demands of the future battlefield for increased man-machine complexity to acquire, transmit, process, disseminate, and use information. The research focuses on the interface problems and interactions within command and control centers and concerns such areas as topographic products and procedures, tactical symbology, user-oriented systems, information management, staff operations and procedures, and sensor systems integration and utilization.

One area of special interest is the evaluation of intelligence data within tactical intelligence systems. Analysts involved in the integration of data from many sources, as well as decisionmakers, can benefit from ratings of information quality. Current doctrine calls for explicit judgments of information accuracy and source reliability, but there is strong evidence that these ratings are poorly understood and seldom used effectively.

The present publication is a continuation of previous research on the judgment and use of ratings of intelligence information. Technical Paper 286, which suggested ratings on two or three new dimensions, would capture most of the important aspects of information quality. The present study added a second scenario, used a different population of raters, and confirmed the earlier findings. Numerical ratings of Truth or Accuracy and of Importance may provide a good alternative to the current rating scheme.

Research in the area of data characteristics and information utilization is conducted as an in-house effort augmented by contracts with organizations that have unique capabilities and facilities for research in this area. The present study was conducted as an in-house effort under the program direction of Mr. Robert S. Andrews. The effort was responsive to requirements of Army Project 2Q762722A765 and of the U.S. Army Intelligence Center and School, Fort Huachuca, Ariz.

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A VALIDATION OF THE STRUCTURE OF COMBAT INTELLIGENCE RATINGS

BRIEF

Requirement:

To validate a multidimensional descriptive structure of the quality of intelligence data and to evaluate four new scales for combat intelligence--True, Predictable, Important, and Relevant--based on the descriptive structure.

Procedure:

Fifty-six captains enrolled in the Intelligence Officers' Advanced Course were divided into two groups of 28 each. Officers in one group evaluated a series of 40 messages based on the Battle of the Bulge, and those in the second group evaluated a series of 40 messages based on a hypothetical mid-intensity conflict in west-central Europe. The evaluations were made on 50 descriptive scales that had been used in an earlier study and that were the basis of the descriptive structure being validated. Subsets of 20 messages from each of the two message sets also were rated on four scales designed to represent the previously identified descriptive structure. The evaluations were analyzed to determine the implicit judgment structure underlying the officers' ratings and to evaluate the correspondence of the four new rating scales with this judgment structure.

Findings:

There were no significant differences between judgments in the two scenarios.

Officers' judgments of the quality of intelligence data can be represented by a multidimensional structure with three or four dimensions.

The major dimensions of intelligence data quality were not significantly different from those found in a previous experiment using enlisted intelligence analysts.

Two concepts, TRUTH and RELEVANCE/IMPORTANCE/THREAT, were major factors for evaluation of combat intelligence by all groups of analysts.

Two of the new scales based on the earlier study, True and Predictable, reflect the TRUTH dimension. The other two new scales, Important and Relevant, represent the RELEVANCE/IMPORTANCE/THREAT dimension.

Utilization of Findings:

The implicit structure of combat intelligence ratings, which was validated in this research, can be used to describe the evaluations made by a variety of intelligence personnel of a variety of combat intelligence data. Thus, this structure provides a basis for improving procedures for evaluating combat intelligence data.

This empirical structure is not well-defined by the current Accuracy/Reliability ratings. The four new scales, especially the True scale, provide a basis for the empirical development of rating scales that are more natural and easier to use than existing rating scales. These results serve to focus future efforts to develop rating scales for combat intelligence data which will facilitate the effective utilization of the data.

A VALIDATION OF THE STRUCTURE OF COMBAT INTELLIGENCE RATINGS

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INTRODUCTION

Intelligence on which an Army commander bases decisions typically passes through several stages of analysis and integration before arriving in the form of conclusions or estimates. The initial raw data (for example, a reported sighting of an enemy vehicle moving in a given direction) is combined with other related data to give a coherent picture of current enemy activity. A critical step in effective data utilization at each stage of the intelligence process is a determination of the "quality" of each item of available data.

Current Army doctrine (FM 30-5, 1973) requires the explicit rating of intelligence data on two six-point rating scales: Accuracy of Information and Reliability of Source. In addition, an implicit evaluation of pertinence and timeliness is reflected in an analyst's decision to examine data. A variety of field and laboratory experiments as well as anecdotal evidence have shown that the current Accuracy and Reliability scales frequently are not used and are often misapplied or misinterpreted when used.

An explanation for deficiencies in the use of the two current rating scales was suggested by recent ARI research (Miron, Patten, and Halpin, 1978). It appears that intelligence analysts do not evaluate/perceive the "quality" of intelligence data in terms of the four dimensions prescribed by current Army doctrine. A somewhat different conceptual structure for the evaluation of intelligence data was determined empirically by Miron et al. (1978) which, if valid, could provide a basis for the development of more effective procedures for rating the quality of intelligence data. The present experiment is an attempt to validate the conceptual structure of combat intelligence ratings suggested by Miron et al. (1978) and to evaluate several candidate rating scales derived from this conceptual structure.

Current Quality Ratings

The present system for evaluating the quality of intelligence data has changed little since World War II (FM 30-5). Upon receipt of an intelligence report, the analyst must first determine if the information is pertinent and timely. The analyst also must evaluate the reputation of the source and/or reporting agency for submitting factual reports (Reliability) as well as the factual nature (Accuracy) of the data being processed. The evaluations of pertinence and timeliness presumably are reflected in the analyst's decision to continue an examination of the data. The Accuracy and Reliability evaluations are reflected in explicit judgments on two standard rating scales. These ratings then become

attached to the data, and other users of the data determine at least in part, the quality and usefulness of the data on the basis of these ratings.

Reliability is judged on the basis of a six-letter system, and Accuracy is judged on the basis of a six-number system. Letters and numbers are defined by an adjective or adjectival term as follows:

Reliability of Source and/or Agency	Accuracy of Information
A - Completely Reliable	1 - Confirmed by Other Sources
B - Usually Reliable	2 - Probably True
C - Fairly Reliable	3 - Possibly True
D - Not Usually Reliable	4 - Doubtfully True
E - Unreliable	5 - Improbable
F - Reliability Cannot Be Judged	6 - Truth Cannot Be Judged

There are several problems with the present system of evaluation. Analysts seldom agree on the precise meaning of the descriptive words and terms. Possibly because of this confusion, the ratings are frequently omitted (Baker, Mace, and McKendry, 1968). In addition, although analysts are specifically instructed to rate information Reliability and Accuracy as separate items, prior research has revealed that individual analysts consistently use either Reliability or Accuracy as the basic criterion of message quality and correlate the other rating with it (Samet, 1975; Meehland and Rine, 1967). As a result, ratings tend to run A-1, B-2, C-3... Studies also have indicated that most analysts use Accuracy as their basic criterion, and that they may tend to inflate their ratings; nearly three-quarters of all reports are rated B-2 (Samet, 1975; Baker et al., 1968).

The laboratory and field results summarized above indicate that the current system for evaluating intelligence data does not provide an effective, realistic evaluation of data quality. One possible explanation of these results is that intelligence analysts neither perceive nor evaluate information quality in terms of Reliability and Accuracy as defined by current doctrine.

Structure of Combat Intelligence Ratings

The approach used by Miron et al. (1978) to uncover the psychological bases for judgments of information quality was to have a number of trained and untrained intelligence analysts make many distinct ratings of "quality" for each of 40 intelligence messages. These ratings were

examined for patterns that indicate the underlying criteria being used by the analysts. An initial conceptual analysis of the intelligence data evaluation task identified the following six types of evaluations that might be made: (1) judgments concerning the data source; (2) judgments concerning the message content; (3) judgments concerning the situation; (4) judgments concerning the action reported considering the overall tactical situation; (5) judgments concerning the inferences that can be drawn from the data; and (6) judgments of characteristics of the report itself. Forty-six bipolar scales (e.g., Direct/Indirect; Widespread/Local; Garbled/Clear) were generated to represent these general concepts; these scales, the standard Reliability and Accuracy scales, and two "global validity" scales were used by the analysts to evaluate the 40 messages (Figure 1). The "Global Validity" scales, suggested by Samet (1975), require a rating on a 0-100 scale of the general validity or accuracy of the data in the message.

The message set used consisted of 33 messages from the files of the 28th Infantry Division for the period 10 December through 15 December 1944 (just before the German Ardennes Counteroffensive of 16 December 1944), and an additional seven fictitious and misleading messages generated for the research. The raters were 21 "trained" enlisted personnel who had just completed the course for intelligence analysts (96B) at the U.S. Army Intelligence Center and School (USAICS) and 34 "untrained" enlisted personnel who were just entering the same course. Most of the participating personnel had little Army experience beyond Basic Training and, in the case of the "trained" group, the USAICS course.

The ratings of the messages on the 50 scales were analyzed to determine the underlying cognitive structure that would explain the pattern of relationships among the various scales. Scales that were used in a similar fashion across messages were assumed to have a common basis; thus, for example, if Messages 1, 3, 9, 17, and 25 all were rated "high" on scales X, Y, and Z, and if all other messages were rated "low" on these scales, there is a strong indication that scales X, Y, and Z overlap in their meaning and all represent one underlying concept.

The data analyses were designed to identify the most parsimonious set of concepts or dimensions that would describe the obtained pattern of scale interrelationships. The analysis of the participants' ratings indicated that there were no basic differences between the two groups, and that there were three basic "factors" or "dimensions" in the psychological space that determined the way the selected intelligence messages were evaluated (Table 1). In other words, the analysts (both trained and untrained) essentially made only three independent evaluations of each message in using the 50 rating scales.

1.	ACTIVE	___:___:___:___:___:___:___	INACTIVE	24.	UNIMPLIED	___:___:___:___:___:___:___	IMPLIED
2.	FALSE	___:___:___:___:___:___:___	TRUE	25.	HEAVY	___:___:___:___:___:___:___	LIGHT
3.	UNTIMELY	___:___:___:___:___:___:___	TIMELY	26.	POSSIBLE	___:___:___:___:___:___:___	IMPOSSIBLE
4.	SPECIFIC	___:___:___:___:___:___:___	VAGUE	27.	OBSERVED	___:___:___:___:___:___:___	INFERRED
5.	PRECARIOUS	___:___:___:___:___:___:___	IMPRECARIOUS	28.	GARBLED	___:___:___:___:___:___:___	CLEAR
6.	EXTRAORDINARY	___:___:___:___:___:___:___	ORDINARY	29.	FAULTLESS	___:___:___:___:___:___:___	FAULTY
7.	INTELLIGIBLE	___:___:___:___:___:___:___	UNINTELLIGIBLE	30.	WIDESPREAD	___:___:___:___:___:___:___	LOCAL
8.	INFEASIBLE	___:___:___:___:___:___:___	FEASIBLE	31.	ACCURATE	___:___:___:___:___:___:___	ERRONEOUS
9.	FACTUAL	___:___:___:___:___:___:___	THEORETICAL	32.	UNINTERPRETED	___:___:___:___:___:___:___	INTERPRETED
10.	UNSTABLE	___:___:___:___:___:___:___	STABLE	33.	RELEVANT	___:___:___:___:___:___:___	IRRELEVANT
11.	DIRECT	___:___:___:___:___:___:___	INDIRECT	34.	INSECURE	___:___:___:___:___:___:___	SECURE
12.	VARIABLE	___:___:___:___:___:___:___	RELIABLE	35.	ANALYZABLE	___:___:___:___:___:___:___	UNANALYZABLE
13.	UNDERSTANDABLE	___:___:___:___:___:___:___	CONFUSING	36.	RISKY	___:___:___:___:___:___:___	ROUTINE
14.	LIKELY	___:___:___:___:___:___:___	UNLIKELY	37.	FRAGMENTED	___:___:___:___:___:___:___	COMPLETED
15.	MASSIVE	___:___:___:___:___:___:___	INSIGNIFICANT	38.	ACCEPTABLE	___:___:___:___:___:___:___	UNACCEPTABLE
16.	CONTRADICTED	___:___:___:___:___:___:___	SUBSTANTIATED	39.	MANY	___:___:___:___:___:___:___	FEW
17.	DEPENDABLE	___:___:___:___:___:___:___	UNDEPENDABLE	40.	CONFIRMED	___:___:___:___:___:___:___	UNCONFIRMED
18.	USELESS	___:___:___:___:___:___:___	USEFUL	41.	CHANGING	___:___:___:___:___:___:___	CONSTANT
19.	INERT	___:___:___:___:___:___:___	VOLATILE	42.	LARGE SCALE	___:___:___:___:___:___:___	SMALL SCALE
20.	INAPPROPRIATE	___:___:___:___:___:___:___	APPROPRIATE	43.	IMPROBABLE	___:___:___:___:___:___:___	PROBABLE
21.	TRUTHFUL	___:___:___:___:___:___:___	DECEPTIVE	44.	EXTRANEOUS	___:___:___:___:___:___:___	PERTINENT
22.	UNHAZARDOUS	___:___:___:___:___:___:___	HAZARDOUS	45.	CONSISTENT	___:___:___:___:___:___:___	INCONSISTENT
23.	EXPECTED	___:___:___:___:___:___:___	UNEXPECTED	46.	DANGEROUS	___:___:___:___:___:___:___	SAFE

47. RELIABILITY:

COMPLETELY RELIABLE	USUALLY RELIABLE	FAIRLY RELIABLE	NOT USUALLY RELIABLE	UNRELIABLE	RELIABILITY CANNOT BE JUDGED
A ____	B ____	C ____	D ____	E ____	F ____

48. ACCURACY:

CONFIRMED BY OTHER SOURCES	PROBABLY TRUE	POSSIBLY TRUE	DOUBTFULLY TRUE	IMPROBABLE	TRUTH CANNOT BE JUDGED
1 ____	2 ____	3 ____	4 ____	5 ____	6 ____

GLOBAL-1

49. 0 10 20 30 40 50 60 70 80 90 100

GLOBAL-2

50. 0 10 20 30 40 50 60 70 80 90 100

Figure 1. Rating scales used to evaluate data elements.

Table 1

Rating Factors for Combined Samples of Enlisted Analysts
(Reproduced from Miron et al. (1978)

COMBINED SUBJECTS

Factor I (57%) TRUTH		Factor II (19%) RELEVANCE		Factor III (6%) DIRECTNESS		Factor IV (3%)	
Scale Component Attribute	Factor Coefficient	Scale Component Attribute	Factor Coefficient	Scale Component Attribute	Factor Coefficient	Scale Component Attribute	Factor Coefficient
Accurate – Erroneous	.98	Heavy – Light	.96	Interpreted – Uninterpreted	.76	Active – Inactive	.46
Truthful – Deceptive	.97	Many – Few	.92	Implied – Unimplied	.75	Local – Widespread	.41
True – False	.97	Large Scale – Small Scale	.92	Understandable – Confusing	.45	Reliable – Variable	.41
Acceptable – Unacceptable	.97	Dangerous – Safe	.90	Constant – Changing	.37		
Accuracy	.96	Risky – Routine	.89				
Global 1	.96	Massive – Insignificant	.88				
Dependable – Undependable	.95	Widespread – Local	.84				
Faultless – Faulty	.95	Precarious – Imprecarious	.80				
Probable – Improbable	.94	Extraordinary – Ordinary	.80				
Reliable – Variable	.92	Hazardous – Unhazardous	.78				
Possible – Impossible	.92	Volatile – Inert	.70				
Global 2	.92	Active – Inactive	.48				
Likely – Unlikely	.92						
Direct – Indirect	.92						
Factual – Theoretical	.91						
Reliability	.90						
Confirmed – Unconfirmed	.90						
Pertinent – Extraneous	.89						
Consistent – Inconsistent	.89						

The primary factor concerned the TRUTH, or accuracy, of the message. Evaluations of this aspect of message quality were related to the current Accuracy and Reliability scales, the Global Validity scales, and bipolar scales such as True/False, Probable/Improbable, and Acceptable/Unacceptable.

The ratings that defined the second factor suggested that the analysts were basing many of their ratings on some concept of information RELEVANCE, or importance; evaluations of this aspect of message quality were related to bipolar scales such as Heavy/Light, Many/Few, Large-Scale/Small-Scale, and Risky/Routine.

The third aspect of message quality was identified tentatively as DIRECTNESS; here the evaluations were related to bipolar scales such as Interpreted/Uninterpreted, Implied/Unimplied, and Understandable/Confusing.

Given the limited experience of the analysts in the Miron et al. (1978) study and the possible limitations imposed by the use of a scenario reflecting warfare conditions 30 years ago (e.g., reports of sightings of horsedrawn carts), these results nevertheless suggest that several modifications in the procedures used to evaluate intelligence data may be desirable. As in earlier research, analysts did not discriminate between information Accuracy and information Reliability; both of these ratings appear to be used to represent some notion of Accuracy. Furthermore, this underlying concept of information Accuracy may be better represented by the 0-100 scale of Global validity than by either of the two standard scales. Validation of these results with a sample of more experienced intelligence personnel and with a different scenario would indicate that the two current six-point scales for the evaluation of information quality should be replaced. Validation would also provide a basis for developing rating scales to measure aspects of information quality that are more consistent with the analyst's subjective appraisal and the needs of the intelligence system.

The conceptual structure of combat intelligence ratings developed by Miron et al. (1978) can serve as the basis for improved rating scales to evaluate combat intelligence data. Determining the types of rating scales that should be used requires an iterative procedure of developing, evaluating, and refining new rating scales.

Four potential scales for evaluating combat intelligence data (Figure 2) were designed to provide ratings which correspond to the three factors found by Miron et al. (1978): Scale 1 focuses on TRUTH, Scales 2 and 4 focus on RELEVANCE/IMPORTANCE/THREAT, and Scale 3 focuses on DIRECTNESS. Numerical scales were used because any single key word or word pair is unlikely to unambiguously define the underlying concept represented by any of the judgment dimensions. Furthermore, numerical scales have several distinct advantages: Values on a scale

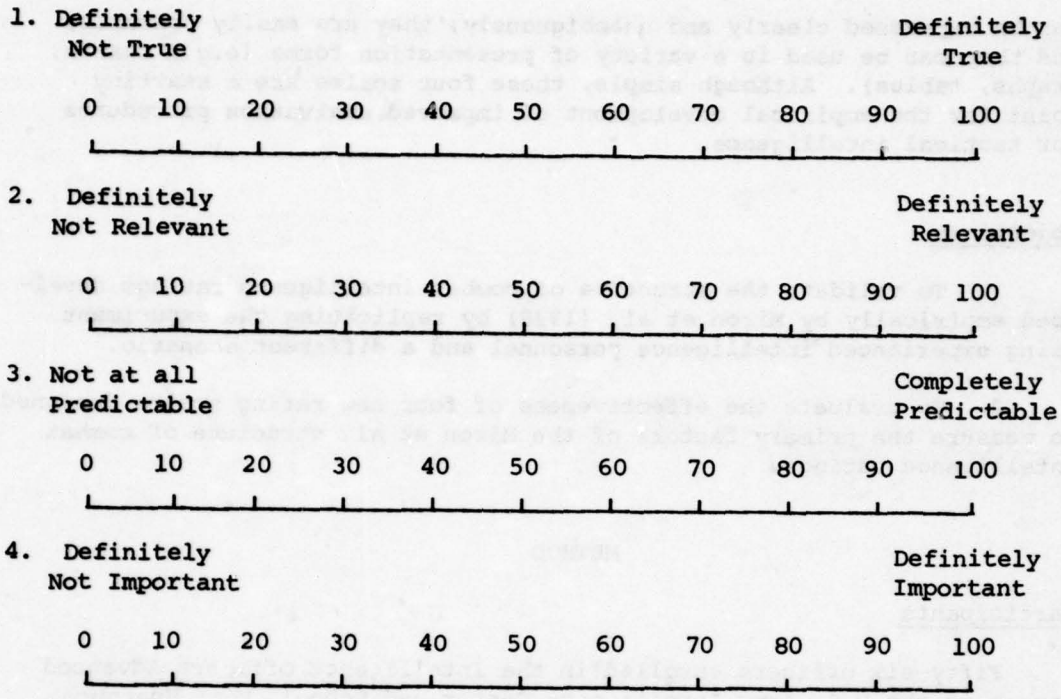

Figure 2. Four potential scales for evaluating combat intelligence data.

can be expressed clearly and unambiguously, they are easily scorable, and they can be used in a variety of presentation forms (e.g., charts, graphs, tables). Although simple, these four scales are a starting point for the empirical development of improved evaluation procedures for tactical intelligence.

Objectives

1. To validate the structure of combat intelligence ratings developed empirically by Miron et al. (1978) by replicating the experiment using experienced intelligence personnel and a different scenario.

2. To evaluate the effectiveness of four new rating scales designed to measure the primary factors of the Miron et al. structure of combat intelligence ratings.

METHOD

Participants

Fifty-six officers enrolled in the Intelligence Officers Advanced Course at the U.S. Army Intelligence Center and School, Fort Huachuca, Ariz., participated in this experiment. They were divided into two equal groups, each of which received materials from a different scenario. The groups were equivalent in rank and intelligence experience. One group had 27 0-3's and 1 0-2, and the other had 28 0-3's. Members of one group had from 1 to 11 years of intelligence experience, with a mean of 3.8 years, and the other group's members had from 1 to 10 years of intelligence experience with a mean of 3.9 years.

Scenarios

Two scenarios were used. The first was based on the Battle of the Bulge and was identical to that used in the previous research by Miron et al. (1978).

Thirty-three intelligence messages concerning enemy activity during the period 10 December through 15 December 1944 along the Ardennes line in Europe were drawn from the files of the 28th Infantry Division. Seven fictitious and misleading reports were added to these messages to determine if analysts would detect them. These messages (Miron et al., 1978) depict a buildup of forces of the defending German Army that eventually culminated in an aggressive, large-scale counteroffensive and breakthrough of the Allied lines on 16 December, known as the Battle of the Bulge. After the fact, it is possible to deduce the significance of the intelligence gathered at the time.

It is known, however, that the strength of the attack by a presumably defeated, demoralized, and hard-pressed enemy caught the Allies by surprise. The messages range from trivial sighting reports of horse-drawn carts to reports of massive troop movements, POW interrogations, and G2 summaries. They vary in length, have different degrees of completeness, and originate from several agencies and sources. Although the situation is dated and involves a style of warfare that differs sharply from more recent conflicts, these messages, unlike fictional scenarios, are real, have a documented outcome, and are naturalistically valid.

The second scenario was placed in the context of a hypothetical engagement in the Hof Gap area of modern-day central Europe. Forty messages (see Appendix A) were taken from a scenario developed to study intelligence processing in an Order-of-Battle (OB) section (Halpin, Staniforth, and Bowen, 1973). The messages were selected from the large number that would be received by the OB section during one 12-hour shift and reflect the activities of an Aggressor Combined Arms Army as it moves from a training/maneuver location and begins to deploy for an attack to the west. The messages include reports of troop movements, rumors of enemy plans, enemy air and radio activities, and so forth. They roughly match those in the Battle of the Bulge scenario in terms of source (e.g., proportion of reports from friendly civilians versus prisoners of war (POW)) and routing (e.g., messages from higher, lower, or adjacent commands) of the information.

Procedure

Each group of participants was assembled in a large classroom and was given a briefing on the purpose of the study, the participants' tasks, and the scenario they would be dealing with. For participants dealing with the well-known Battle of the Bulge, the situation briefing focused on the current military aspects, including locations of friendly and enemy forces. There was little discussion of earlier engagements, German and Allied strategy, etc. The Hof Gap participants received somewhat more background on the political situation, recent military activity, and indications of enemy intentions. Following the introductory briefing, each participant was given a packet of materials, including, instructions for rating the messages; response sheets; messages to be rated; a map sheet of the area of interest and an overlay showing the current tactical situation; and grease pencils for plotting information received.

Task

Participants were asked to read the background materials provided and examine available maps and overlays. Then individuals evaluated the quality of each of the 40 messages. Evaluations were made by rating each

message on each of the 50 scales. As in the Miron et al. (1978) study, participants were given a set of rating forms (Figure 1) containing the 46 bipolar adjective scales, the standard Accuracy and Reliability scales, and the Global Validity scales. After they had provided these 50 ratings on all 40 messages, they were given a representative sample of 20 messages chosen from the 40 they had already rated and were asked to rate each message on the four new rating scales developed from the findings of the Miron et al. (1978) study (Figure 2).

The task required approximately 4 hours to complete. Two monitors were present during each of the experimental sessions to provide instructions, answer questions, and check on progress for each group.

RESULTS

The basic data consist of more than 120,000 observations--the ratings by each of the 28 subjects in the two groups on each of the 50 scales for each of the 40 messages in a scenario plus each of 4 scales for 20 of the messages. The data may be described in terms of two three-dimensional matrices, one for each of the two scenarios, where the dimensions identify messages, scales, and subjects. The analyses related to the 50 general scales are presented for each of the two scenarios prior to presenting analyses for the four new scales.

Overview of the Analysis

Our concern is with the relationship among the scales rather than differences among messages or participants. Therefore, the first step was to find the average (mean) rating made on a given scale for a given message across all subjects for each scenario (Table 2). Then the correlations among the scales across the messages were computed. The resulting scales intercorrelation matrix was subjected to a Principal Components Factor Analysis with Varimax rotation, a technique that leads to a description of the underlying relationships among the scales. The basic assumption underlying the use of this analysis in this context is that an individual's "concept space" or "judgment space" may be described by a relatively few independent dimensions in the same way that physical space may be described in terms of "height," "width," and "depth." The factor analysis of the scales intercorrelation matrix may be thought of as identifying rating scales that were used in a similar fashion; the experimenter uses these groups of similar scales to define the dimensions of the judgment space.

The Principal Components technique operates by successively extracting dimensions or factors that account for the maximum total variance in the matrix of interest, taking into consideration the variance already accounted for by earlier dimensions. The Varimax rotation has the effect of relocating the dimensional structure to spread the factor variance more evenly across the separate factors. Each factor after

Table 2

Means and Standard Deviations for Each Rating Scale
Across All Messages and Raters

Scale		Scenario: Battle of the Bulge $\bar{x}$	Battle of the Bulge s.d.	Hof Gap $\bar{x}$	Hof Gap s.d.
1.	Active/Inactive	3.08	1.50	3.08	1.21
2.	False/True	5.30	1.25	5.03	1.19
3.	Untimely/Timely	5.20	1.58	5.08	1.33
4.	Specific/Vague	3.41	1.72	3.55	1.53
5.	Precarious/Imprecarious	3.62	1.29	3.75	1.06
6.	Extraordinary/Ordinary	3.95	1.50	3.91	1.22
7.	Intelligible/Unintelligible	2.78	1.34	2.98	1.18
8.	Infeasible/Feasible	5.64	1.24	5.41	1.23
9.	Factual/Theoretical	3.02	1.49	3.17	1.19
10.	Unstable/Stable	4.36	1.31	4.19	1.17
11.	Direct/Indirect	3.17	1.47	3.37	1.23
12.	Variable/Reliable	4.95	1.42	4.70	1.29
13.	Understandable/Confusing	2.88	1.48	3.04	1.35
14.	Likely/Unlikely	2.77	1.39	2.88	1.30
15.	Massive/Insignificant	3.43	1.46	3.46	1.05
16.	Contradicted/Substantiated	4.60	1.16	4.40	1.02
17.	Dependable/Undependable	3.01	1.37	3.29	1.22
18.	Useless/Useful	5.18	1.44	5.15	1.19
19.	Inert/Volatile	4.46	1.33	4.53	1.08
20.	Inappropriate/Appropriate	5.12	1.33	5.10	1.21
21.	Truthful/Deceptive	3.00	1.36	3.26	1.23
22.	Unhazardous/Hazardous	4.47	1.18	4.44	.98
23.	Expected/Unexpected	3.78	1.39	3.45	1.41
24.	Unimplied/Implied	3.97	1.37	4.00	1.23
25.	Heavy/Light	3.65	1.22	3.76	.83
26.	Possible/Impossible	2.42	1.17	2.64	1.12
27.	Observed/Inferred	3.18	1.67	3.48	1.39
28.	Garbled/Clear	4.99	1.28	4.77	1.13
29.	Faultless/Faulty	3.67	1.21	3.84	1.08
30.	Widespread/Local	3.88	1.46	4.07	1.24
31.	Accurate/Erroneous	3.09	1.26	3.28	1.15
32.	Uninterpreted/Interpreted	3.94	1.52	3.96	1.37
33.	Relevant/Irrelevant	2.69	1.32	2.68	1.16
34.	Insecure/Secure	4.08	1.03	4.16	.79
35.	Analyzable/Unanalyzable	2.85	1.34	3.11	1.19
36.	Risky/Routine	3.80	1.25	3.86	.96
37.	Fragmented/Completed	4.14	1.39	3.91	1.07

Table 2 (Continued)

Scale		Scenario: Battle of the Bulge $\bar{x}$	Battle of the Bulge s.d.	Hof Gap $\bar{x}$	Hof Gap s.d.
38.	Acceptable/Unacceptable	3.08	1.39	3.24	1.28
39.	Many/Few	3.79	1.32	3.92	.72
40.	Confirmed/Unconfirmed	3.82	1.59	4.14	1.51
41.	Changing/Constant	3.52	1.22	3.79	1.07
42.	Large Scale/Small Scale	3.55	1.48	3.78	1.07
43.	Improbable/Probable	5.24	1.35	5.13	1.29
44.	Extraneous/Pertinent	5.11	1.41	5.25	1.22
45.	Consistent/Inconsistent	3.24	1.38	3.26	1.35
46.	Dangerous/Safe	3.58	1.19	3.63	.89
47.	Reliability	3.05	1.71	3.67	1.88
48.	Accuracy	3.02	1.48	3.22	1.59
49.	Global I	73.99	21.94	72.10	22.66
50.	Global II	73.37	22.67	71.99	23.66

rotation is perpendicular to all other factors; thus, variation within one factor is independent of variation in every other factor. (For a more detailed discussion of factor analysis, the underlying assumptions, the mathematical operations, and interpretation and application of the results, see Harman, 1967.)

The results of a factor analysis are typically presented in terms of the "loadings" of each of the items, in this case rating scales, on each of the factors. The absolute magnitude of the loading of a particular scale on a factor reflects the relative importance of that scale as a representative of the underlying judgment dimension being used by the subjects. All scales have loadings on all factors, and any listing of scales that load "heavily" on a factor involves a somewhat arbitrary cutoff at the point where it appears that including any additional scales would contribute little to an understanding of the underlying dimension of judgment. Similarly, the choice of the number of factors to display and discuss involves a judgment that the additional information provided by the successively less powerful factors provides little additional understanding of the judgments underlying the factor space.

As shown in Figure 1, an attempt was made to design the rating form to avoid problems of response bias. It is well known that some individuals have a tendency to respond on the "low" or left-hand end of rating scales while others have a similar tendency to respond on the "high" or right-hand end of such scales. The orientation of scales relating to similar concepts was counterbalanced, e.g., False/True, Likely/Unlikely, Truthful/Deceptive, and Improbable/Probable, to minimize the influence of such response biases. The result of this counterbalancing procedure is a number of negative correlations among related concepts; a report rated closer to the True end of the False/True scale (and hence assigned a high number) would also be rated close to the Truthful end of the Truthful/Deceptive scale (and hence assigned a low number).

To simplify the presentation of the results by minimizing the number of negative relationships, the data from the scales are reported in most instances as though there had been a common orientation. The exceptions are the traditional Accuracy and Reliability scales, which are consistently presented with "1" as the "high" end (Confirmed by Other Sources, Completely Reliable), and the 100-point scales, which are scored with "0" as the low end and "100" as the high end.

When comparing "similar" factors from different analyses, it should be noted that the appearance of an identical set of rating scales in identical order would be very unlikely. If a common judgment dimension is present, however, then scales with a similar meaning will have similar loadings. To provide some "objective" basis for the comparison of the factors obtained in the study with those previously found by Miron et al., (1978), correlations were computed between the factor loadings on factors obtained from the samples. These correlations must be interpreted very

cautiously, because no basis exists for assessing or establishing the statistical significance of these coefficients. Furthermore, because the correlations are computed on the basis of all factor loadings and not just the "meaningful" loadings, the correlations may be unduly influenced by essentially random variation in the low loadings. Thus, these correlations must be considered as indicative rather than as firm evidence of relationships.

In the presentation and the discussion of the results, there is some potential for confusion due to the fact that the labels assigned to the factors found in different experiments may be similar or identical. To minimize confusion, factor labels will include a superscript to indicate the experiment from which the data were derived. Factor labels from the Miron et al. (1978) study will have a "0" superscript, those based on the Battle of the Bulge senario will have a "1" superscript, and those based on the Hof Gap scenario will have a "2" superscript. Thus, TRUTH^0 and TRUTH^2 would refer to factors derived from data from the Miron et al. (1978) study and from the Hof Gap scenario, respectively. The use of labels without a superscript will refer to a generalized concept based on an integration of results from more than one set of data.

Battle of the Bulge Scenario

The results of the factor analysis based on the ratings made by the 28 participants in the Battle of the Bulge scenario are presented in Table 3. The four rotated factors account for 84.4% of the variance among messages in mean scale ratings. Factor I, which accounts for 48.8% of the variance, has high loadings for scales such as Probable/Improbable, Likely/Unlikely, Global Validity, and other scales that presumably reflect the judged likelihood that the information would be received in the context of the scenario and the judged truth of the information. This factor is called TRUTH^1.

Factor II reflects scales such as Routine/Risky, Safe/Dangerous, and Small Scale/Large Scale, which deal with the potential threat and the scope (size and amount) of activity reported in the messages. This factor, which accounts for 25.9% of the variance, is labeled IMPORTANCE^1. Factor III accounts for only 5.9% of the variance and includes both of the standard scales, Accuracy and Reliability. But the other scales loading heavily here, such as Dependable/Undependable, indicate that the underlying judgment is of SOURCE RELIABILITY^1. Factor IV, labeled AMBIGUITY^1, accounts for only 4.2% of the variance.

The correlations between the factors obtained in the present experiment and the corresponding factors from the analysis of the combined sample in the Miron et al. (1978) study are shown in Table 4.

Table 3

Rating Factors for Analysts Using the Battle of the Bulge Scenario

Factor I TRUTH 48.8%		Factor II IMPORTANCE 25.9%		Factor III SOURCE RELIABILITY 5.9%		Factor IV AMBIGUITY 4.2%	
Probable	-.94	Routine	-.96	Reliability	-.65	Interpreted	-.68
Unlikely	.94	Safe	-.95	Accuracy	-.59	I plied	-.61
Global I	.93	Light	-.94	Undependable	-.51		
Global II	.93	Insignificant	-.92	Unconfirmed	-.50		
Unacceptable	.92	Ordinary	-.90				
Impossible	.92	Small Scale	-.89				
Feasible	-.92	Few	-.88				
True	-.91	Hazardous	.86				
Erroneous	.91	Imprecarious	.85				
Indirect	.90	Volatile	.85				
Reliable	-.89						
Confusing	.89						
Theoretical	.89						
Faulty	.87						
Completed	-.86						
Deceptive	.86						

Table 4

Intercorrelations Among Corresponding Factors

FACTOR I

	TRUTH^0	TRUTH^1	TRUTH^2
TRUTH^0	1.	.92	.91
TRUTH^1		1.	.99
TRUTH^2			1.

FACTOR II

	RELEVANCE^0	IMPORTANCE^1	THREAT^2
RELEVANCE^0	1.	.93	.71
IMPORTANCE^1		1.	.78
THREAT^2			.1

FACTOR III

	DIRECTNESS^0	SOURCE RELIABILITY^1	SCOPE^2
DIRECTNESS^0	1	-.06	.09
SOURCE RELIABILITY^1		1.	.24
SCOPE^2			1.

FACTOR IV

	IV	AMBIGUITY^1	CLARITY^2
IV	1.	.11	.09
AMBIGUITY^1		1.	-.08
CLARITY^2			1.

There is a strong similarity between the Miron et al. results and the results obtained in the current experiment. In particular, the first two factors in each experiment are clearly related to judgments of TRUTH and IMPORTANCE, respectively. The major difference between the two results is that the relatively inexperienced enlisted analysts apparently did not differentiate between information accuracy and the reliability of the source. The current sample of officers, all with several years of experience, did make an independent judgment of Source Reliability. It is interesting to note that these officers used the traditional Accuracy scale in a way that shows this judgment to be tied closely to their judgment of Source Reliability rather than to their judgment of the TRUTH of the information.

Hof Gap Scenario

The results of the factor analysis of the mean ratings of the 28 participants who evaluated these 40 messages are presented in Table 5. The four rotated factors account for 82.3% of the variance in the averaged scale ratings of the messages. Factor I, which accounts for 53.9% of the variance, has high loadings for scales such as Accurate/Erroneous, False/True, Truthful/Deceptive, Improbable/Probable, and Possible/Impossible. This factor is labeled TRUTH^2. Factor II reflects the use by analysts of scales such as Precarious/Imprecarious and Dangerous/Safe, which reflect the possible impact of the activity reported in the messages on the analyst's unit. This factor, which is labeled THREAT^2, accounts for 15.9% of the variance. Factor III accounts for only 7.4% of the variance; this factor apparently reflects a judgment of the SCOPE^2 of activity reported--Large Scale/Small Scale, Widespread/Local, Many/Few. Factor IV, tentatively labeled CLARITY^2, accounts for only 5.1% of the variance.

The correlations between the factors obtained in the Hof Gap scenario and the Battle of the Bulge scenario as well as with the Miron et al. (1978) results are shown in Table 4.

A comparison of the Hof Gap scenario results with the Battle of the Bulge results shows a overall similarity of the judgment dimensions used by these two samples of officers in evaluating different sets of combat intelligence messages. As in the Battle of the Bulge scenario, the principal judgment is of the TRUTH of the information. In the Hof Gap scenario, however, we find the analysts combining the notions of Accuracy and Source Reliability in their judgment of TRUTH^2, whereas the analysts in the Battle of the Bulge scenario used Accuracy and Source Reliability as components of a separate factor, SOURCE RELIABILITY^1.

The present results also reflect the use of judgments concerning the THREAT^2 and SCOPE^2 of information; here these judgments appear as independent factors, whereas before they had been combined into one

Table 5

Rating Factors for Analysts Using the Hof Gap Scenario

Factor I		Factor II		Factor III		Factor IV	
TRUTH[2]		THREAT[2]		SCOPE[2]		CLARITY[2]	
53.9%		15.9%		7.4%		5.1%	
Erroneous	.96	Imprecarious	-.88	Small Scale	-.93	Clear	.57
True	-.96	Safe	-.87	Local	-.89	Interpreted	.53
Deceptive	.96	Routine	-.84	Few	-.87		
Probable	-.95	Ordinary	-.79				
Impossible	.94	Insignificant	-.78				
Unlikely	.94	Volatile	.78				
Feasible	-.93	Hazardous	.75				
Global II	-.93						
Inconsistent	.93						
Theoretical	.92						
Reliable	-.92						
Confusing	.92						
Undependable	.92						
Unconfirmed	.92						
Global I	-.92						
Accuracy	.92						
Reliability	.67						

factor, IMPORTANCE[1]. As in the previous results, there is a weak but consistent judgment of message AMBIGUITY or CLARITY.

Candidate Scales

Factor analysis was used to relate the four candidate scales--"True," "Relevant," "Predictable," and "Important"--to the underlying dimensions of judgment. Evaluations from the four scales were included with those from the 50 general scales in an analysis of the 20 messages that had been selected from each scenario.

The results of the factor analysis based on the mean ratings across the 28 officers of the Battle of the Bulge messages are presented in Table 6, and the results based on the mean ratings across the second group of 28 officers of the central European scenario are presented in Table 7. As expected, the basic factor structure is similar to that found for the complete sets of messages. Of more interest here is the location of the four new scales in the previously established dimensional structure.

Both groups of analysts used the new 0-100 "True" scale in such a way that the scale clearly represents the TRUTH dimension underlying the first factor obtained in the factor analysis solutions. In addition, the new Predictable scale is weakly identified with the TRUTH dimension in both analyses. However, as may be seen in Table 6, the analysts rating the Battle of the Bulge messages also used the Predictable scale in the context of a fourth factor which apparently reflects a judgment of the "expectedness" of information.

For the analysts evaluating the Battle of the Bulge messages, the new 0-100 "Important" and "Relevant" scales are both identified with Factor II, which reflects an IMPORTANCE[1] dimension. The analysts evaluating the Hof Gap messages, however, did not make their ratings in terms of importance, but rather made independent judgments on DANGER[2] and SCOPE[2] dimensions. For these analysts, both the new Important and Relevant scales are weakly identified with the DANGER[2] dimension.

DISCUSSION

The results of the present research suggest that there is a basic commonality in the conceptual or judgment structure used by different intelligence analysts to evaluate combat intelligence data. The high degree of similarity between the results obtained from three samples of analysts (untrained and school-trained enlisted intelligence analysts and company grade intelligence officers) and from two different scenarios supports the existence of judgment dimensions that are basic to the evaluation of combat intelligence data.

Table 6

Rating Factors for Analysts Evaluating Messages in the Battle of the Bulge Scenario

Factor I TRUTH		Factor II IMPORTANCE		Factor III RELIABILITY		Factor IV EXPECTEDNESS	
48.7%		28.7%		5.3%		5.0%	
True	-.94	Light	-.96	Reliability	.79	Unexpected	-.78
Global I	-.94	Safe	-.95	Accuracy	.63	Predictable[a,b]	-.62
Indirect	.93	Routine	-.93				
Erroneous	.93	Small Scale	-.93				
Reliable	-.92	Insignificant	-.92				
Probable	-.92	Few	-.91				
Global II	-.92	Importance[a]	.91				
Unlikely	.91	Ordinary	-.90				
Unacceptable	.91	Hazardous	.89				
Completed	.90	Imprecarious	.87				
Theoretical	.89	Relevant[a,b]	.83				
Feasible	-.88						
Appropriate	-.87						
True[a]	-.87						
Predictable[b]	-.72						

[a]New 0-100 Scale.

[b]This scale has only a weak relationship to the factor but is included to show how it fits within the structure.

Table 7

Rating Factors for Analysts Evaluating Messages in the Hof Gap Scenario

Factor I TRUTH		Factor II DANGER		Factor III SCOPE		Factor IV	
54.7%		15.9%		7.9%		6.6%	
Probable	-.98	Imprecarious	-.90	Small Scale	-.95	Constant	-.72
Unlikely	.98	Safe	-.85	Few	-.88	Clear	.64
Impossible	.98	Ordinary	-.84	Local	-.88		
Feasible	-.97	Routine	-.84				
True	-.97	Hazardous	.77				
Deceptive	.96	Important[a,b]	.64				
Inconsistent	.96	Relevant[a,b]	.61				
True[a]	-.96						
Erroneous	.95						
Unacceptable	.94						
Undependable	.93						
Global II	-.93						
Confusing	.92						
Unconfirmed	.92						
Global II	.92						
Accuracy	.91						
Reliable	-.91						
Appropriate	-.91						
Predictable[a,b]	-.87						

[a] New 0-100 Scale.

[b] This scale has only a weak relationship to the factor but is included to show how it fits within the structure.

Evaluation of the quality of combat intelligence data appears to be based on four independent factors. Factor I, TRUTH, accounts for about 50% of the variance in message ratings in both scenarios and in all three groups of analysts. Factor II, RELEVANCE/IMPORTANCE/THREAT, accounts for about 20% of the variance in message ratings in both scenarios and in all three groups of analysts. Factors III and IV account for about 10% of the variance in message ratings, but they are not stable and vary somewhat across scenarios and across analysts. Considerations of TRUTH and IMPORTANCE are clearly the critical factors in the evaluation of intelligence data.

The primary factor of message quality is TRUTH. The current Reliability and Accuracy ratings are generally, but not always, components of the TRUTH factor. In one exception, intelligence officers using the Hof Gap scenario had both Reliability and Accuracy as components of a third factor, source RELIABILITY. In all instances, the TRUTH aspect of message quality is related to such bipolar scales as Probable/Improbable, True/False, Acceptable/Unacceptable, and the Global Validity scales. A second significant factor of message quality is IMPORTANCE, which is described by such bipolar scales as Routine/Risky, Safe/Dangerous, Massive/Insignificant, and Volatile/Inert.

Although the judgment space was nearly identical for the three groups of analysts as well as for the two scenarios, individuals did not necessarily evaluate the *reports identically*. Similarities exist in the structured space or dimensions within which information is evaluated. For example, different analysts will consider as critical the same information qualities we have identified as TRUTH and IMPORTANCE for all messages. However, evaluations of the quality of specific messages by different analysts are likely to be different. The situation is analogous to different observers who can see the same visual stimulus, i.e., respond to the same energy inputs, but who have different views on the significance or interpretation of that stimulus.

The significance of the findings concerning the dimensions of judgment used to evaluate combat intelligence data is threefold. First, the analyst brings to his task an implicit judgment structure concerning information quality. Second, the implicit judgment structure of the analyst does not correspond to the evaluation structure embodied in current doctrine. Third, this implicit judgment structure does not appear to be modified by the training procedures employed at the U.S. Army Intelligence Center and School. Thus, the judgment structure of company grade intelligence officers is similar to the judgment structure of prospective enlisted intelligence analysts just entering training. What we know to be true of such implicit judgment structures indicates that it would be very difficult to modify them.

The present structure for evaluating the quality of intelligence data is based on four dimensions (FM 30-5, 1973): Accuracy of Information, Reliability of Source, Timeliness, and Pertinence. These four factors do not have a close relationship to TRUTH and IMPORTANCE,

the primary factors on which analysts appear to base their judgments of information quality. For example, TRUTH includes both the aspects of information quality evaluated by the current ratings, Accuracy of Information and Reliability of Source, as well as aspects related to scales such as Probable/Improbable and Consistent/Inconsistent. Thus, many of the deficiencies of the current evaluation structure may arise from the mismatch between the implicit judgment structure of analysts and the evaluation structure embodied in current doctrine. What is required is that doctrine and training use the underlying conceptual structure of information quality to best advantage.

The four candidate scales results obtained that indicate it is possible to develop simple, numerical scales that represent the factors of this conceptual judgment structure. This is most clearly seen in the case of the new 0-100 "True" scale, which was found to be an important element of a TRUTH factor. However, the remaining three scales, Relevant, Predictable, and Important, were not as successful in capturing other factors in the analysts' judgment structure. The Predictable scale was both highly correlated with the True scale and an element of the TRUTH factor. The Important and Relevant scales were highly intercorrelated and both were components of IMPORTANCE. The data show that a "True" scale provides a basis for the development of evaluation procedures of a TRUTH factor, but further exploration of various scales appears necessary to begin development of improved procedures for evaluating other factors in the judgment structure of analysts.

The results of the four candidate scales also indicate that a single key word or word pair will not clearly capture the underlying concept represented by any of the judgment dimensions. For example, requiring analysts to provide a rating of a message's truth, accuracy, or validity will not necessarily yield consistent, reliable judgments from all analysts for all tactical situations because the descriptive word chosen may not represent the analyst's personal concept of TRUTH. Nevertheless, it is clear that a great deal of information about data quality can be conveyed by a numerical rating on a "True" scale that is interrelated with other aspects of the general concept of TRUTH. Numerical rating scales with equal intervals should be used instead of scales such as the present Information-Accuracy/Source Reliability scales, which depend on verbal labels and their specific definitions. Further research may be necessary to determine the optimal scale form (e.g., 0-100; 0-10; etc.) and if such a rating will provide sufficient information about the data for proper use by a recipient.

The TRUTH factor accounts for about 50% of the variability in information quality, and, for many purposes, a Truth or Accuracy scale would provide intelligence and command personnel with a sufficient basis for information utilization. This scale includes the aspects of information quality evaluated by the present Information Accuracy and Source Reliability ratings and could easily be incorporated into

existing doctrine. The suggestion is to develop a truth scale whose label is related to the current ratings, i.e., information accuracy. However, this scale would represent a very different and more natural rating scheme than the existing system.

Although the new Accuracy scale appears to capture a major portion of the variance in evaluations of information quality, the two experiments supporting this conclusion have been conducted in a constrained laboratory environment. The new Accuracy scale should be evaluated in the field for user acceptance and for validation of the findings. A critically important aspect of validation is to determine if this new accuracy scale would satisfy the requirements of different classes of users.

Current doctrine is based on the implicit assumption that the rating of information quality serves several, not necessarily compatible, purposes. For example, ratings of the quality of information are used by analysts to integrate effectively information from several sources; collection managers use ratings to develop data necessary for effective resource allocation and to provide feedback to information sources on the quality of their product. A numerical rating of information "Accuracy" should satisfy the needs of different categories of users. However, this is an empirical issue and should be resolved through laboratory or field research.

A final problem to be considered is that, under some circumstances, this new Accuracy Scale may not give a sufficiently comprehensive evaluation of information. Although Accuracy is a primary rating quality, it may be supplemented with other ratings, e.g., an "Importance" scale representing IMPORTANCE/RELEVANCE/THREAT. The present research suggests that there are circumstances when several numerical rating scales may be needed to allow the analyst to communicate evaluation of the information on each of the possibly relevant dimensions of data quality.

CONCLUSIONS AND RECOMMENDATIONS

Evaluations of the quality of combat intelligence data appear to be based on four independent factors. The primary factor of message quality is TRUTH, which has as its components the current Reliability and Accuracy ratings. A second significant factor is RELEVANCE/IMPORTANCE/THREAT. Two additional significant, but much less powerful, factors are not clearly identified and tend to vary between different types of intelligence personnel and different scenarios.

This conceptual structure is not well defined by the current information Accuracy and Source Reliability ratings. A new scale has been developed to represent the TRUTH factor of the conceptual structure.

The scale for TRUTH should be evaluated in the field and, if the present results are validated, then it should be considered as a replacement for the current rating scales. It is evident from the present research that additional research is required to develop rating scales for the second factor, RELEVANCE/IMPORTANCE/THREAT.

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APPENDIX

CENTRAL EUROPEAN SCENARIO

20TH Mech Division

Selected Messages
121800 - 130500 SEP

Alignment of Units in 30th (US Army from North to South)

2nd (US) Corps

3rd (US) Corps
57th Mech Division
20th Mech Division
74th Mech Division

MSG NO. 1

FROM: S-2, 1BDE, 121811 SEP
TO: G-2, 20 MECH DIV

UNIT IDENTIFIED AS 2ND BN, 213 MECH REGT, HAS BEEN REPORTED BY FRIENDLY CIVILIANS TO BE LOCATED IN THE VICINITY OF NEUSTADT (UR 1092) ACCORDING TO THESE REPORTS THE UNIT STRENGTH IS APPROXIMATELY 83% OF TO&E.

MSG NO. 2

FROM: S-2, 2BDE, 121829 SEP
TO: G-2, 20 MECH DIV

CIVILIAN HAS REPORTED THAT HE WAS PART OF A WORK FORCE THAT ASSISTED IN THE EMPLACEMENT OF AGGRESSOR MINE FIELDS ON 10/11 SEP. THE FIELDS ARE PLACED IN RECTANGULAR PATTERNS IN UNSPECIFIED AREAS FROM 3-7 KILOMETERS TO THE FRONT OF 20 MECH DIV LINE OF CONTACT. EMPLACEMENT WAS SUPERVISED BY ENGINEER OFFICERS THAT GAVE THE INDICATION THAT THEY WERE FROM 16 CAA STAFF.

MSG NO. 3

FROM: G-2, AIR, III CORPS, 121837 SEP
TO: G-2, 20 MECH DIV

AGGRESSOR AERIAL RECONNAISSANCE HAS INCREASED ALONG THE III CORPS FRONT 10-12 SEP. AVAILABLE DATA INDICATES MISSIONS ARE SLAR, INFRARED, AND OBLIQUE PHOTOGRAPHY. CARE WAS TAKEN BY AGGRESSOR AIRCRAFT NOT TO CORSS THE BORDER.

MSG NO. 4

FROM: G-2, 57 MECH DIV, 121841 SEP
TO: G-2, 20 MECH DIV

AGENT REPORTS A LARGE VOLUME OF VEHICULAR TRAFFIC BOTH INCOMING AND OUTGOING, IN THE VICINITY OF LENGENFELD (US 1305) 120830-121640 SEP. APPARENT CARGO WAS POL, SUPPLIES, AND TROOP REPLACEMENTS.

MSG NO. 5

FROM: S-2, 1BDE, 121851 SEP
TO: G-2, 20 MECH DIV

AGENT REPORTS INDICATE THE POSSIBLE PRESENCE OF THE 54 MECH DIV, 19 CAA IN THE VICINITY OF AUERBACH (UR 1699). INFORMATION WAS OBTAINED FROM OVERHEARD CONVERSATIONS AND SIGHTINGS OF VEHCILES.

MSG NO. 6

FROM: IPW SECTION, 20 MECH DIV, 121933 SEP
TO: G-2, 20 MECH DIV

SUBJECT: DESERTER
NAME: KNORR, ABEL R.
RANK: SGT
SERIAL NUMBER: 296361
UNIT: 1ST BN, 1F MDM TK REGT, 1F MECH DIV

DESERTER PICKED UP BY PATROL AT 121526 VIC TR 973862. STATES HIS UNIT WAS LOCATED UR 037847. BN CDR IS PRESNOFF, IVAN R. AND REGT CDR IS COL WEIR, V. DESERTER FURTHER STATES HIS FATHER (KNORR, JOST, COL, RFL.) COMMANDED A REGT IN HIS DIV. (211 MECH REGT) DESERTED BECAUSE OF THE DIFFICULT TIME HE HAD IN KEEPING WITH HIS FATHER'S IMAGE OF A SOLDIER.

MSG NO. 7

FROM: DIV AIRFLD TIFF, 122036 SEP
TO: G-2, 20 MECH DIV
FLIGHT NO. 010
MSN NO. SLAR
RANGE: 10/30
ALT 5000 FT
FLYING TIME: 2 HRS - 30/40 MIN FILM RUN
FLIGHT PATTERN: TR 965974 TO TS 980090

RAPID RAIL MOVEMENT OF TRAIN OF APPROX. 25 CARS HEADING SW VIC UR 115955 121723 SEP.

MSG NO. 8

FROM: G-2, III CORPS, 122042 SEP
TO: G-2, 20 MECH DIV

REPORTS ON THE OPERATIONS OF THE 1F INDICATE THAT THEY HAVE BEEN ON MANEUVERS IN THE FIELD FOR THE PAST 96 DAYS.

MSG NO. 9

FROM: 262 ASA CO, 122058 SEP
TO: G-2, 20 MECH DIV

BASED UPON INFORMATION RECEIVED BY THIS UNIT DEADLINE RATE OF 1F MECH DIV VEHICLES HAS HISTORICALLY BEEN 10-15%.

MSG NO. 10

FROM: S-2, 1BDE, 122207 SEP
TO: G-2, 20 MECH DIV

CIVILIANS REPORT 14 TRUCKS WITH 16 CAA BUMPER MARKINGS MOVING NORTHEAST FROM FALKENSTEIN VICINITY (UR 1395) AT 121320 SEP.

CARGO: UNKNOWN.

MSG NO. 11

FROM: 210 CA CO, 122227 SEP
TO: G-2, 20 MECH DIV

CIVILIANS HAVE REPORTED SEVERAL LARGE EXPLOSIONS INSIDE AGGRESSOR LINES FROM THE DIRECTION OF TALTITZ (TR 953913) AT APPROX 122020 SEP. CAUSE UNKNOWN. MECH UNITS OF THE 1F MECH DIV HAVE BEEN SIGHTED IN THIS AREA.

MSG NO. 12

FROM: 2240 MICO, 122349 SEP
TO: G-2, 20 MECH DIV

AGGRESSOR DOCUMENT STRESSES THE REQUIREMENT FOR OPERATIONS PLAN TO EMPHASIZE SPEED AND FIREPOWER IN ACHIEVING THEIR OBJECTIVE. 1F MECH DIV HAS BEEN DIRECTED TO SUBMIT A "SPECIAL REPORT" BY 121300 SEP.

MSG NO. 13

FROM: G-2, III CORPS, 130017 SEP
TO: G-2, 20 MECH DIV

UNIDENTIFIED OFFICER FROM GENERAL STAFF WAS OVERHEAD IN EIBENSTOCK (UR 3096) AT 121340 SEP SAYING THE EXERCISE HAS PROVEN SOME MAJOR NEW CONCEPTS IN THE SUPPLY PROCEDURES OF THE 16 CAA.

MSG NO. 14

FROM: S-2, 2BDE, 130024 SEP
TO: G-2, 20 MECH DIV

CIVILIANS INDICATE THAT SOME TANK UNITS IN THE 1F DIV MANEUVER AREAS AS OF 12 SEP ARE EQUIPPED WITH FORDING EQUIPMENT. THERE ARE ALSO AMPHIBIOUS TANKS INCLUDED IN THE FORCE.

MSG NO. 15

FROM: CDR, 20 GOP, 130105 SEP
TO: G-2, 20 MECH DIV

US UNITS ASSIGNED TO THE GOP FORCE (TR 970896) HAS HAD MINOR CONTACT WITH AGGRESSOR PATROLS IN THE AREA 130037 SEP. WHEN CONTACT WAS MADE ENEMY PATROLS WITHDREW. THERE HAS BEEN NO APPARENT SIGNIFICANT CROSSING INTO FRIENDLY TERRITORY.

MSG NO. 16

FROM: S-2, 1 BDE, 130121 SEP
TO: G-2, 20 MECH DIV

CIVILIANS REPORT PATROLS BEARING 1F MECH INSIGNIA HAVE BEEN OPERATING ALONG THE EAST SIDE OF THE WEISSE-ELSTER RIVER ON 12 SEP. THEY HAVE QUESTIONED RESIDENTS EXTENSIVELY ON THE OPERATIONS OF 20 MECH.

MSG NO. 17

FROM: 262 ASA CO, 130123 SEP
TO: G-2, 20 MECH DIV

CG OF THE 19 CAA, G/A MIKHAYLOV, DIMTRY, WITH STAFF, ENTERED MANEUVER AREA OF 34 MECH DIV AS OF 121520 SEP. PURPOSE OF VISIT IS TO "REVIEW THE PROGRESS OF THE MANEUVERS". ITINERARY UNKNOWN.

MSG NO. 18

FROM: 2240 MICO, 130133 SEP
TO: G-2, 20 MECH DIV

UNIDENTIFIED TANK UNIT(S) OF APPROX BN SIZE LOCATED IN THE VIC OF AUERVACH (UR 1699) 121321 SEP. UNIT(S) DISPOSITION CENTERED ON THE MAJOR ROAD NETWORKS.

MSG NO. 19

FROM: CDR, 20 GOP, 130135 SEP
TO: G-2, 20 MECH DIV

CONSTRUCTION SOUNDS HAVE BEEN HEARD VIC (TR 962900) AT 130025 SEP. ELEMENTS OF THE 1F MECH DIV HAVE PREVIOUSLY BEEN REPORTED IN THIS LOCATION.

MSG NO. 20

FROM: CDR, 20 GOP, 130157 SEP
TO: G-2, 20 MECH DIV

FRIENDLY CIVILIANS HAVE OVERHEARD THAT AN AGGRESSOR UNIT OF APPROX COMPANY SIZE, PART OF THE 211 REGT, WILL BE MOVING INTO PREPARED POSITIONS VIC (TR 915912) AT APPROX 122015 SEP.

MSG NO. 21

FROM: G-2, 3 CORPS, 130207 SEP
TO: G-2, 20 MECH DIV

DESERTER REPORTS 3 MECH BN, 211 REGT, LOCATED VICINITY (UR 0680) AS OF 121710 SEP. NO FURTHER INFORMATION OF TACTICAL IMPORTANCE.

MSG NO. 22

FROM: 2240 MICO, 130213 SEP
TO: G-2 20 MECH DIV

FRIENDLY CIVILIANS VIC CROSS ROADS (UR 018985) INDICATE PASSAGE OF TWO GROUPS OF WHEELED VEHCILES AND ONE LARGE GROUP OF TKS OR SP GUNS, HEADING SOUTH AT 121116 SEP.

MSG NO. 23

FROM: G-2, 3 CORPS, 130217 SEP
TO: G-2, 20 MCH DIV

NEW SEMI-AUTOMATIC WEAPONS AND AT WEAPONS HAVE RECENTLY BEEN ISSUED TO THE 1F, DIV, CAUSING CONFUSION ON THE PART OF THE AGGRESSOR TROOPS DUE TO LACK OF TRAINING IN USE AND MAINTENANCE.

MSG NO. 24

FROM: CDR, 20 GOP, 130222 SEP
TO: G-2, 20 MECH DIV

AGGRESSOR PSYCHOLOGICAL WARFARE UNITS BROADCASTING ALONG THE 3 CORPS FRONT NIGHTLY EMPHASIZING THE COMBAT POWER OF THE AGGRESSOR AND THE FUTILITY OF THE CAPITALIST SYSTEM.

MSG NO. 25

FROM: CDR, 20 GOP, 130223 SEP
TO: G-2, 20 MECH DIV

GROUND SURVEILLANCE EQUIPMENT INDICATE LARGE MOVEMENT OF TROOPS POSSIBLY BN STRENGTH VIC (TR 945913) AT 130055 HTS. MECH ELEMENTS OF THE 1F DIV HAVE BEEN REPORTED IN THIS VICINITY. (B-3)

MSG NO. 26

FROM: G-2, 3 CORPS, 130229 SEP
TO: G-2, 20 MECH DIV

DOCUMENT OF 16 CAA INDICATES THAT THE 1F DIV ARTY LOCATED VIC (UR 1081) 120300 SEP HAS HAD A HIGH PERCENTAGE OF MISFIRES AND SHORT ROUNDS. REPORTEDLY COMMAND ATTENTION IS BEING DIRECTED TO THE MATTER.

MSG NO. 27

FROM: GOP, 20 MECH DIV, 130234 SEP
TO: G-2, 20 MECH DIV

BODY OF AN AGGRESSOR SERGEANT FOUND IN THE WEISSE-ELSTER RIVER AT (UR 010843) ON 130110 SEP. INSIGNIA INDICATED HE BELONGED TO THE 210 ENG REGT: NO OTHER MARKINGS OR IDENTIFICATION.

MSG NO. 28

FROM: G-2, 3 CORPS, 130237
TO: G-2, 20 MECH DIV
SUBJECT: G/D TURGENEV, I., CG 35 MECH DIV

CG TURGENEV HAS BEEN REPORTED TO BE DEPRESSED AS THE RESULT OF PERSONAL DIFFICULTIES THAT HE IS HAVING AT HOME.

MSG NO. 29

FROM: CDR, 20 SIG BN, 130244 SEP
TO: G-2, 20 MECH DIV

SIGNAL INTERCEPTED AT 130010 SEP ALERTS THE 1F MECH DIV TO PREPARE FOR MOVEMENT BACK TO THE HOMELAND TO SUPPORT GARRISON TROOPS IN POSSIBLE CIVILIAN UPRISING.

MSG NO. 30

FROM: 20 GOP, 130253 SEP
TO: G-2, 20 MECH DIV

OBSERVATION OF ENEMY ACTIVITY ALONG EAST SIDE OF WEISSE-ELSTER RIVER INDICATES PREPARATION FOR LAYING PONTOONS.

MSG NO. 31

FROM: S-2, 2 BDE, 130301 SEP
TO: G-2, 20 MECH DIV

FRIENDLY CIVILIAN REPORTS UNKNOWN MECH UNIT ATTACHED TO 1F DIV HAS BEEN RELOCATING SOME CIVILIAN RESIDENTS OF WARSCHITZ (UR 0384) AND LEUBETHA (UR 0481) TO THE AREA EAST OF KLINGENTHAL (UR 2082) FOR "THEIR OWN PROTECTION."

MSG NO. 32

FROM: G-2, 3 CORPS, 130304 SEP
TO: G-2, 20 MECH DIV

CIVILIAN REPORTS FROM THE 34 DIV AREA, INDICATE AGGRESSOR BUYING FOOD IN LARGE QUANTITIES FOR WHICH PAYMENT IS MADE IN MILITARY SCRIPT.

MSG NO. 33

FROM: G-2, 3 CORPS, 130314 SEP
TO: G-2, 20 MECH DIV

CORPS LOCATED MAJOR AGGRESSOR UNIT CONCENTRATIONS IN THE FOLLOWING AREAS:

SCHONECK (UR 1086)
TIRPERSDORF (UR 0591)
TREUEN (US 0902)

UNIT DESIGNATIONS AND STRENGTH NOT DETERMINED.

MSG NO. 34

FROM: S-2, 2 BDE, 130335 SEP
TO: G-2, 20 MECH DIV

CIVILIANS REPORT THAT MOVEMENT WITHIN THE 1F MECH AREA HAS GENERALLY BEEN ON THE INCREASE SINCE THEY HAVE OCCUPIED THESE POSITIONS.

MSG NO. 35

FROM: IPW SEC, 20 MECH DIV, 130353 SEP
TO: G-2, 20 MECH DIV

DESERTER 210 ENGINEER REGT STATED THAT 210 HAS BEEN DRILLED IN THE RAPID DEPLOYMENT OF PONTOON SECTIONS CAPABLE OF SUPPORTING UP TO 60 TONS.

MSG NO. 36

FROM: CDR 20 GOP, 130414 SEP
TO: G-2, 20 MECH DIV

AGGRESSOR PATROL OF APPROX 20 MEN SIGHTED VIC (UR 009852) AT 130226 SEP. NO CONTACT MADE.

MSG NO. 37

FROM: G-2, 3 CORPS, 130424 SEP
TO: G-2, 20 MECH DIV

MARTIAL LAW DECLARED 122130 SEP WITHIN THE TOWNS OF OELSNITZ (TR 995893), PLAUEN (TR 970980), FALKENSTEIN (UR 135950), AND AUERBACH (UR 158985) BY AUTHORITY OF CG 16 CAA FOR THE "DURATION OF THE EXERCISE".

MSG NO. 38

FROM: CDR, 20 MECH GOP FORCE, 130437 SEP
TO: G-2, 20 MECH DIV

DESERTER FROM 211 MECH REGT, 1F MECH DIV ENTERED FRIENDLY LINES 130115 SEP IN THE 21 ARMD CAV SQDN SECTOR OF THE GOP. DESERTER STATED HIS REGT HAD MOVED TO FWD ASSEMBLY AREA WITH OTHER UNITS OF THE 1F MECH DIV AND HAS MISSION OF ATTACKING 20 MECH DIV. DESERTER HAD NO IDEA OF LOCATION OF HIS UNIT AS HE LEFT AT NIGHT AND MADE HIS WAY TO OUR LINES.

MSG NO. 39

FROM: CDR, 20 MECH GOP, 130444 SEP
TO: G-2, 20 MECH DIV

UNITS LOCATED ON THE GOP REPORT A SHORT (3 MIN) EXCHANGE OF SMALL ARMS FIRE AT (TR 915918) 130413 SEP. CONTACT FOLLOWED BY AGGRESSOR DISSENGAGEMENT.

MSG NO. 40

FROM: IPWSEC, 20 MECH DIV, 130448 SEP
TO: G-2, 20 MECH DIV

INTERROGATION OF CAPTURED AGGRESSOR SABOTAGE TEAM NEAR UNTERKOTZAU (QA 0680) REVEALED THEIR MISSION TO BE TO INFILTRATE US LINES AND CREATE CONFUSION BY DESTROYING POL SUPPLIES IN THE REAR LINES.

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1 The Army Lib, Pentagon, ATTN: RSB Chief
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1 Ofc, Asst Sect of the Army (R&D)
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1 USASA, Arlington, ATTN: IARD-T
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1 US WAC Ctr & Sch, Ft McClellan, ATTN: Tng Dir
1 USA Quartermaster Sch, Ft Lee, ATTN: ATSM-TE
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1 USA SE Signal Sch, Ft Gordon, ATTN: ATSO-EA
1 USA Chaplain Ctr & Sch, Ft Hamilton, ATTN: ATSC-TE-RD
1 USATSCH, Ft Eustis, ATTN: Educ Advisor
1 USA War College, Carlisle Barracks, ATTN: Lib
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1 USA Armament Cmd, Rock Island, ATTN: AMSAR-TDC
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1 FAA-NAFEC, Atlantic City, ATTN: Hum Engr Br
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2 USA Fld Arty Sch, Ft Sill, ATTN: Library
1 USA Armor Sch, Ft Knox, ATTN: Library
1 USA Armor Sch, Ft Knox, ATTN: ATSB-DI-E
1 USA Armor Sch, Ft Knox, ATTN: ATSB-DT-TP
1 USA Armor Sch, Ft Knox, ATTN: ATSB-CD-AD
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1 HQUSACDEC, Ft Ord, ATTN: ATEC-EX-E-Hum Factors
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1 USAPACDC, Ft Benjamin Harrison, ATTN: ATCP-HR
1 USA Comm-Elect Sch, Ft Monmouth, ATTN: ATSN-EA
1 USAEC, Ft Monmouth, ATTN: AMSEL-CT-HDP
1 USAEC, Ft Monmouth, ATTN: AMSEL-PA-P
1 USAEC, Ft Monmouth, ATTN: AMSEL-SI-CB
1 USAEC, Ft Monmouth, ATTN: C, Facl Dev Br
1 USA Materials Sys Anal Agcy, Aberdeen, ATTN: AMXSY-P
1 Edgewood Arsenal, Aberdeen, ATTN: SAREA-BL-H
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1 USA Combat Arms Tng Bd, Ft Benning, ATTN: Ad Supervisor
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1 USASMA, Ft Bliss, ATTN: ATSS-LRC
1 USA Air Def Sch, Ft Bliss, ATTN: ATSA-CTD-ME
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1 USA Air Def Bd, Ft Bliss, ATTN: FILES
1 USA Air Def Bd, Ft Bliss, ATTN: STEBD-PO
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3 USA Computer Sys Cmd, Ft Belvoir, ATTN: Tech Library
1 USAMERDC, Ft Belvoir, ATTN: STSFB-DQ
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1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: DAS/SRD
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: ATSI-TEM
1 USA Intelligence Ctr & Sch, Ft Huachuca, ATTN: Library
1 CDR, HQ Ft Huachuca, ATTN: Tech Ref Div
2 CDR, USA Electronic Prvg Grd, ATTN: STEEP-MT-S
1 CDR, Project MASSTER, ATTN: Tech Info Center
1 Hq MASSTER, USATRADOC, LNO
1 Research Institute, HQ MASSTER, Ft Hood
1 USA Recruiting Cmd, Ft Sherdian, ATTN: USARCPM-P
1 Senior Army Adv., USAFAGOD/TAC, Elgin AF Aux Fld No. 9
1 HQ USARPAC, DCSPER, APO SF 96558, ATTN: GPPE-SE
1 Stimson Lib, Academy of Health Sciences, Ft Sam Houston
1 Marine Corps Inst., ATTN: Dean-MCI
1 HQUSMC, Commandant, ATTN: Code MTMT 51
1 HQUSMC, Commandant, ATTN: Code MPI-20
2 USCG Academy, New London, ATTN: Admission
2 USCG Academy, New London, ATTN: Library
1 USCG Training Ctr, NY, ATTN: CO
1 USCG Training Ctr, NY, ATTN: Educ Svc Ofc
1 USCG, Psychol Res Br, DC, ATTN: GP 1/62
1 HQ Mid-Range Br, MC Det, Quantico, ATTN: P&S Div

1 US Marine Corps Liaision Ofc, AMC, Alexandria, ATTN: AMCGS–F
1 USATRADOC, Ft Monroe, ATTN: ATRO–ED
6 USATRADOC, Ft Monroe, ATTN: ATPR–AD
1 USATRADOC, Ft Monroe, ATTN: ATTS–EA
1 USA Forces Cmd, Ft McPherson, ATTN: Library
2 USA Aviation Test Bd, Ft Rucker, ATTN: STEBG–PO
1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Library
1 USA Agcy for Aviation Safety, Ft Rucker, ATTN: Educ Advisor
1 USA Aviation Sch, Ft Rucker, ATTN: PO Drawer O
1 HQUSA Aviation Sys Cmd, St Louis, ATTN: AMSAV–ZDR
2 USA Aviation Sys Test Act., Edwards AFB, ATTN: SAVTE–T
1 USA Air Def Sch, Ft Bliss, ATTN: ATSA TEM
1 USA Air Mobility Rsch & Dev Lab, Moffett Fld, ATTN: SAVDL–AS
1 USA Aviation Sch, Res Tng Mgt, Ft Rucker, ATTN: ATST–T–RTM
1 USA Aviation Sch, CO, Ft Rucker, ATTN: ATST–D–A
1 HQ, DARCOM, Alexandria, ATTN: AMXCD–TL
1 HQ, DARCOM, Alexandria, ATTN: CDR
1 US Military Academy, West Point, ATTN: Serials Unit
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1 US Military Academy, West Point, ATTN: MAOR
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1 Naval Aerospc Med Res Lab, Pensacola, ATTN: Acous Sch Div
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1 AFHRL (TT) Lowry AFB
1 AFHRL (AS) WPAFB, OH
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1 AFHRL (DOJN) Lackland AFB
1 HQUSAF (INYSD)
1 HQUSAF (DPXXA)
1 AFVTG (RD) Randolph AFB
3 AMRL (HE) WPAFB, OH
2 AF Inst of Tech, WPAFB, OH, ATTN: ENE/SL
1 ATC (XPTD) Randolph AFB
1 USAF AeroMed Lib, Brooks AFB (SUL–4), ATTN: DOC SEC
1 AFOSR (NL), Arlington
1 AF Log Cmd, McClellan AFB, ATTN: ALC/DPCRB
1 Air Force Academy, CO, ATTN: Dept of Bel Scn
5 NavPers & Dev Ctr, San Diego
2 Navy Med Neuropsychiatric Rsch Unit, San Diego
1 Nav Electronic Lab, San Diego, ATTN: Res Lab
1 Nav TrngCen, San Diego, ATTN: Code 9000–Lib
1 NavPostGraSch, Monterey, ATTN: Code 55Aa
1 NavPostGraSch, Monterey, ATTN: Code 2124
1 NavTrngEquipCtr, Orlando, ATTN: Tech Lib
1 US Dept of Labor, DC, ATTN: Manpower Admin
1 US Dept of Justice, DC, ATTN: Drug Enforce Admin
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1 Military Attache, French Embassy, ATTN: Doc Sec
1 Medecin Chef, C.E.R.P.A.–Arsenal, Toulon/Naval France
1 Prin Scientific Off, Appl Hum Engr Rsch Div, Ministry of Defense, New Delhi
1 Pers Rsch Ofc Library, AKA, Israel Defense Forces
1 Ministeris van Defensie, DOOP/KL Afd Sociaal Psychologische Zaken, The Hague, Netherlands